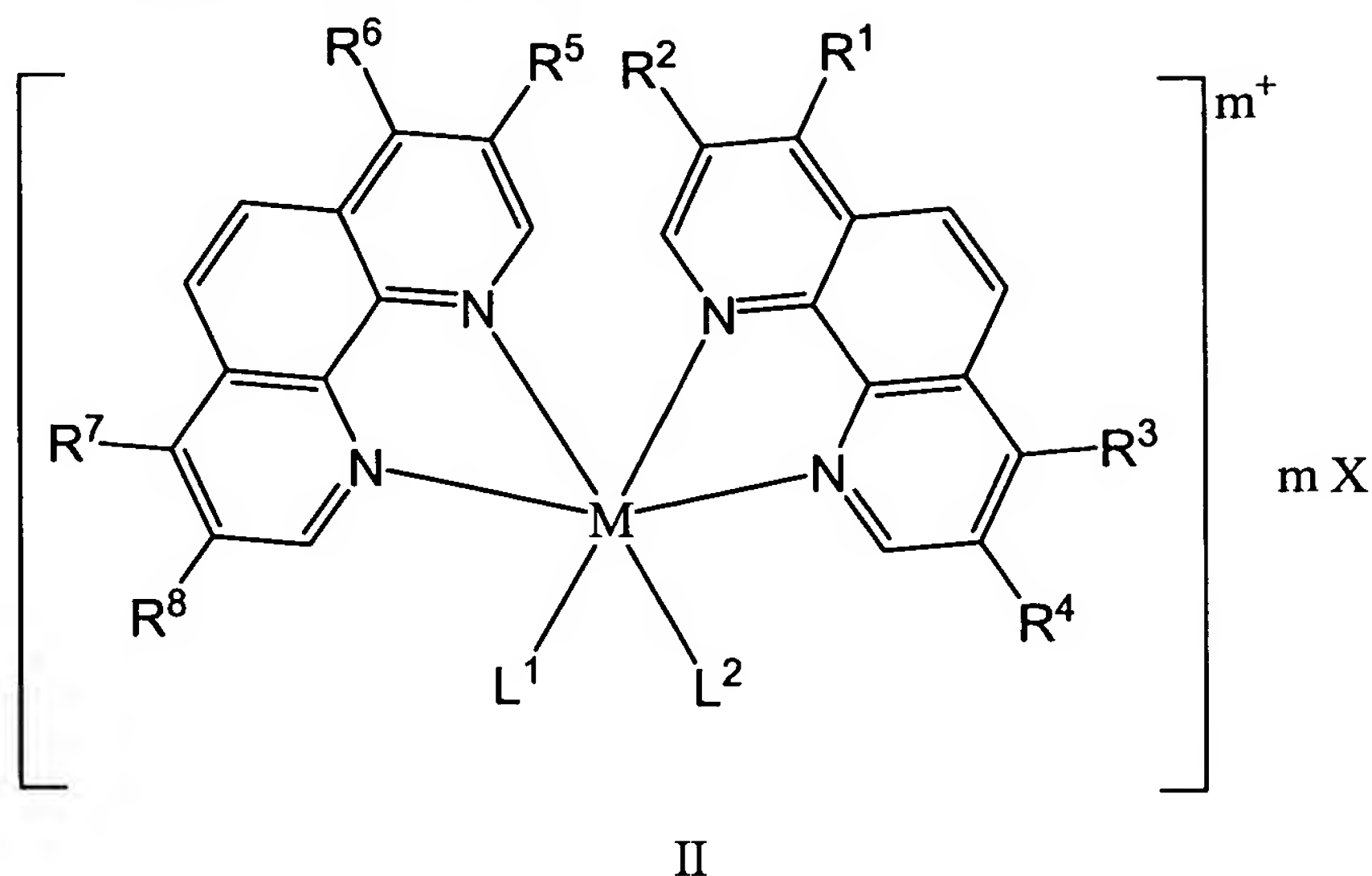


**Amendments to the Claims:**

Claims 1-32 have been canceled.

33. (Original) A compound of Formula II:



wherein M is Ru or Os;

each L<sup>1</sup> is independently an organic molecule having:

(a) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;

(b) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;

(c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with M;

(d) an -NH<sub>2</sub> group whose nitrogen atom forms a bond with M; or

(e) a -COOH group, one of whose oxygen atoms forms a bond with M;

L<sup>2</sup> is (R<sup>2</sup>)<sub>3</sub>P, (R<sup>2</sup>O)<sub>3</sub>P, or L<sup>1</sup>, wherein each R<sup>2</sup> is independently -C<sub>1</sub>-C<sub>18</sub> alkyl, -C<sub>3</sub>-C<sub>8</sub> cycloalkyl, or phenyl, and m is 2; or L<sup>2</sup> is -CN and m is 1;

R<sup>1</sup>-R<sup>8</sup> are independently -H, -C<sub>1</sub>-C<sub>18</sub> alkyl, -NH<sub>2</sub>, -COOH, -(C<sub>1</sub>-C<sub>18</sub> alkyl)-O-(C<sub>1</sub>-C<sub>18</sub> alkyl), or -OC(O)(C<sub>1</sub>-C<sub>18</sub> alkyl); and

X is  $\text{Cl}^-$ ,  $\text{F}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PF}_6^-$ ,  $\text{CF}_3\text{SO}_3^-$ ,  $(\text{C}_1\text{-C}_{18} \text{ alkyl})\text{-CO}_2^-$ , or  $(\text{C}_1\text{-C}_{18} \text{ alkyl})\text{-SO}_3^-$ .

34. (Original) The compound of claim 33, wherein the organic molecule is 4-aminopyridine.

35. (Original) The compound of claim 33, wherein the organic molecule is (RS)-(tetrazol-5-yl) glycine.

36. (Original) The compound of claim 33, wherein the organic molecule is (tetrazol-5-yl) AMPA.

37. (Original) The compound of claim 33, wherein the organic molecule is nicotine or caffeine.

38. (Original) The compound of claim 33, wherein the organic molecule is serotonin, epinephrine, norepinephrine, or dopamine.

39. (Original) The compound of claim 33, wherein the organic molecule is adenosine 5'-diphosphate ADP, adenosine 5'-triphosphate ATP, adenosine 5'-monophosphate AMP, cyclic adenosine 5'-diphosphate ribose, or adenosine 3', 5'-cyclicmonophosphate.

40. (Original) The compound of claim 33, wherein the organic molecule is aminobutyric acid or L-glutamic acid, or methyl-D-aspartic acid.

41. (Original) A method for releasing an organic molecule from a Photolabile Compound, comprising: exposing a compound of claim 33 to light under conditions sufficient to release the organic molecule.

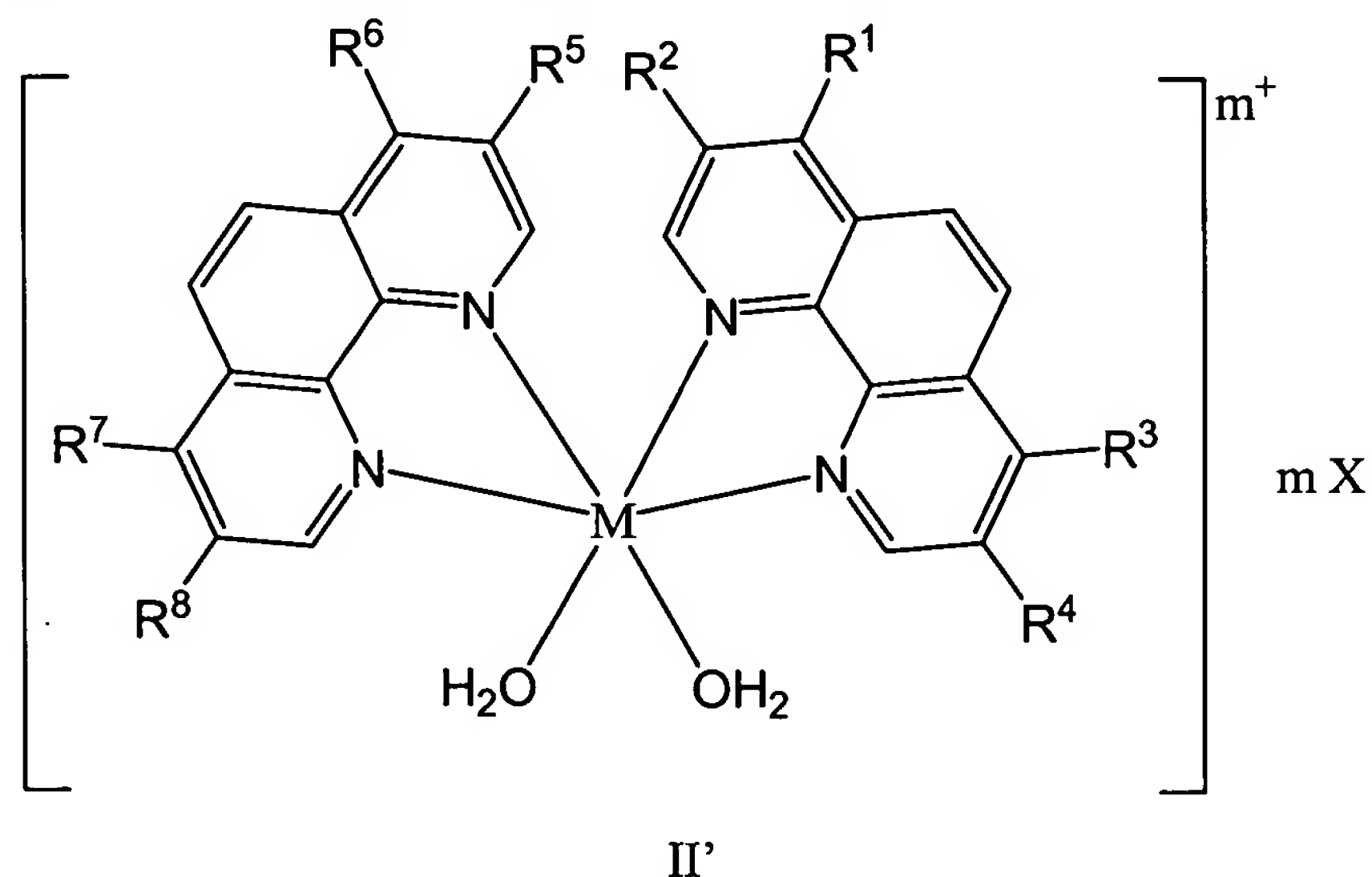
Claims 42-45 have been canceled.

46. (Original) The method of claim 41, wherein the light comprises visible light or infrared light.

Claim 47 has been canceled.

48. (Original) A method for protecting an organic molecule from an effect of an enzyme, comprising:

allowing the organic molecule and a compound of Formula II':



wherein m is 2, R<sup>1</sup>-R<sup>8</sup> are independently -H, -C<sub>1</sub>-C<sub>18</sub> alkyl, -NH<sub>2</sub>, -COOH, -(C<sub>1</sub>-C<sub>18</sub> alkyl)-O-(C<sub>1</sub>-C<sub>18</sub> alkyl), or -OC(O)(C<sub>1</sub>-C<sub>18</sub> alkyl); and X is Cl<sup>-</sup>, F<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>, PF<sub>6</sub><sup>-</sup>, CF<sub>3</sub>SO<sub>3</sub><sup>-</sup>, (C<sub>1</sub>-C<sub>18</sub> alkyl)-CO<sub>2</sub><sup>-</sup>, or (C<sub>1</sub>-C<sub>18</sub> alkyl)-SO<sub>3</sub><sup>-</sup>,

to react under conditions sufficient to make a compound of claim 33, wherein the organic molecule has:

- (a) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
- (b) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
- (c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with M;

- (d) an  $\text{-NH}_2$  group whose nitrogen atom forms a bond with M; or
- (e) a  $\text{-COOH}$  group, one of whose oxygen atoms forms a bond with M.

49. (Original) A method for making an organic molecule bioavailable to a subject, comprising:

- (a) administering a compound of claim 33 to the subject; and
- (b) exposing the compound to light under conditions sufficient to release the organic molecule from the compound, wherein the organic molecule has:
  - (i) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
  - (ii) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
  - (iii) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with M;
  - (iv) an  $\text{-NH}_2$  group whose nitrogen atom forms a bond with M; or
  - (v) a  $\text{-COOH}$  group, one of whose oxygen atoms forms a bond with M.

50. (Original) The method of claim 49, wherein the light is sunlight, photo-optic light, or laser light.

51. (Original) The method of claim 49, wherein the light is visible light or infrared light.

52. (Original) The method of claim 49, wherein the exposing occurs at the site of a tumor, cancer, or neoplasm.

53. (Original) The method of claim 49, wherein the administering occurs intravenously, topically, intradermally, intramuscularly, transdermally, subcutaneously, intranasally, parenterally, intrathecally, vaginally, rectally, colorectally, orally, intracranially, retroorbitally, intrasternally, or by injection.

Claim 54 has been canceled.

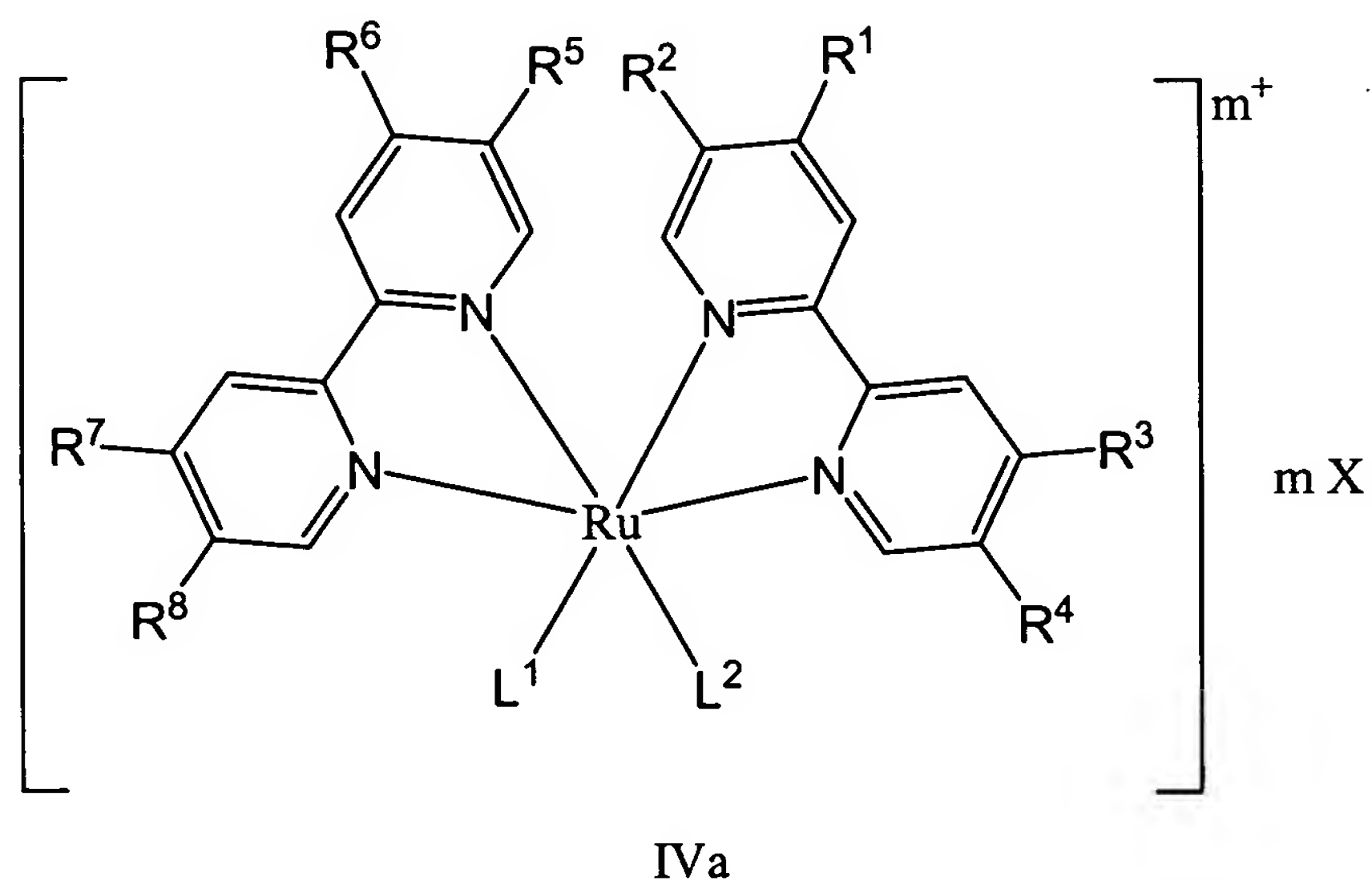
55. (Original) A composition comprising a compound of claim 33 and a physiologically acceptable carrier, vehicle, diluent, or excipient.

Claims 56-63 have been canceled.

64. (Original) A kit comprising a compound of claim 33 and instructions for use of the compound.

Claims 65-96 have been canceled.

97. (Original) A compound of Formula IVa:



wherein:

each L<sup>1</sup> is independently an organic molecule having:

- (a) a tetrazolyl group, one of its nitrogen atoms forming a bond with Ru;
- (b) nicotine or caffeine, whose pyridyl nitrogen atom forms a bond with Ru;

(c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with Ru;

(d) an  $\text{-NH}_2$  group whose nitrogen atom forms a bond with Ru; or

(e) a  $\text{-COOH}$  group, one of whose oxygen atoms forms a bond with Ru;

$L^2$  is  $(R^2)_3P$ ,  $(R^2O)_3P$ , or  $L^1$ , wherein each  $R^2$  is independently  $\text{-C}_1\text{-C}_{18}$  alkyl,  $\text{-C}_3\text{-C}_8$  cycloalkyl, or phenyl, and  $m$  is 2; or  $L^2$  is  $\text{-CN}$  and  $m$  is 1;

$R^1$  to  $R^8$  are independently  $\text{-H}$ ,  $\text{-C}_1\text{-C}_{18}$  alkyl;  $\text{-NH}_2$ ,  $\text{-COOH}$ ,  $\text{-(C}_1\text{-C}_{18}\text{ alkyl)-O-(C}_1\text{-C}_{18}\text{ alkyl)}$ , or  $\text{-OC(O)(C}_1\text{-C}_{18}\text{ alkyl)}$ ; and

$X$  is  $\text{Cl}^-$ ,  $\text{F}^-$ ,  $\text{Br}^-$ ,  $\text{I}^-$ ,  $\text{PF}_6^-$ ,  $\text{CF}_3\text{SO}_3^-$ ,  $\text{(C}_1\text{-C}_{18}\text{ alkyl)-CO}_2^-$ , or  $\text{(C}_1\text{-C}_{18}\text{ alkyl)-SO}_3^-$ .

98. (Original) The compound of claim 97, wherein the organic molecule is (RS)-(tetrazol-5-yl) glycine.

99. (Original) The compound of claim 97, wherein the organic molecule is (tetrazol-5-yl) AMPA.

100. (Original) The compound of claim 97, wherein the organic molecule is nicotine or caffeine.

101. (Original) The compound of claim 97, wherein the organic molecule is serotonin, epinephrine, norepinephrine, or dopamine.

102. (Original) The compound of claim 97, wherein the organic molecule is adenosine 5'-diphosphate ADP, adenosine 5'-triphosphate ATP, adenosine 5'-monophosphate AMP, cyclic adenosine 5'-diphosphate ribose, or adenosine 3', 5'-cyclicmonophosphate.

103. (Original) The compound of claim 97, wherein the organic molecule is aminobutyric acid or L-glutamic acid, or methyl-D-aspartic acid.

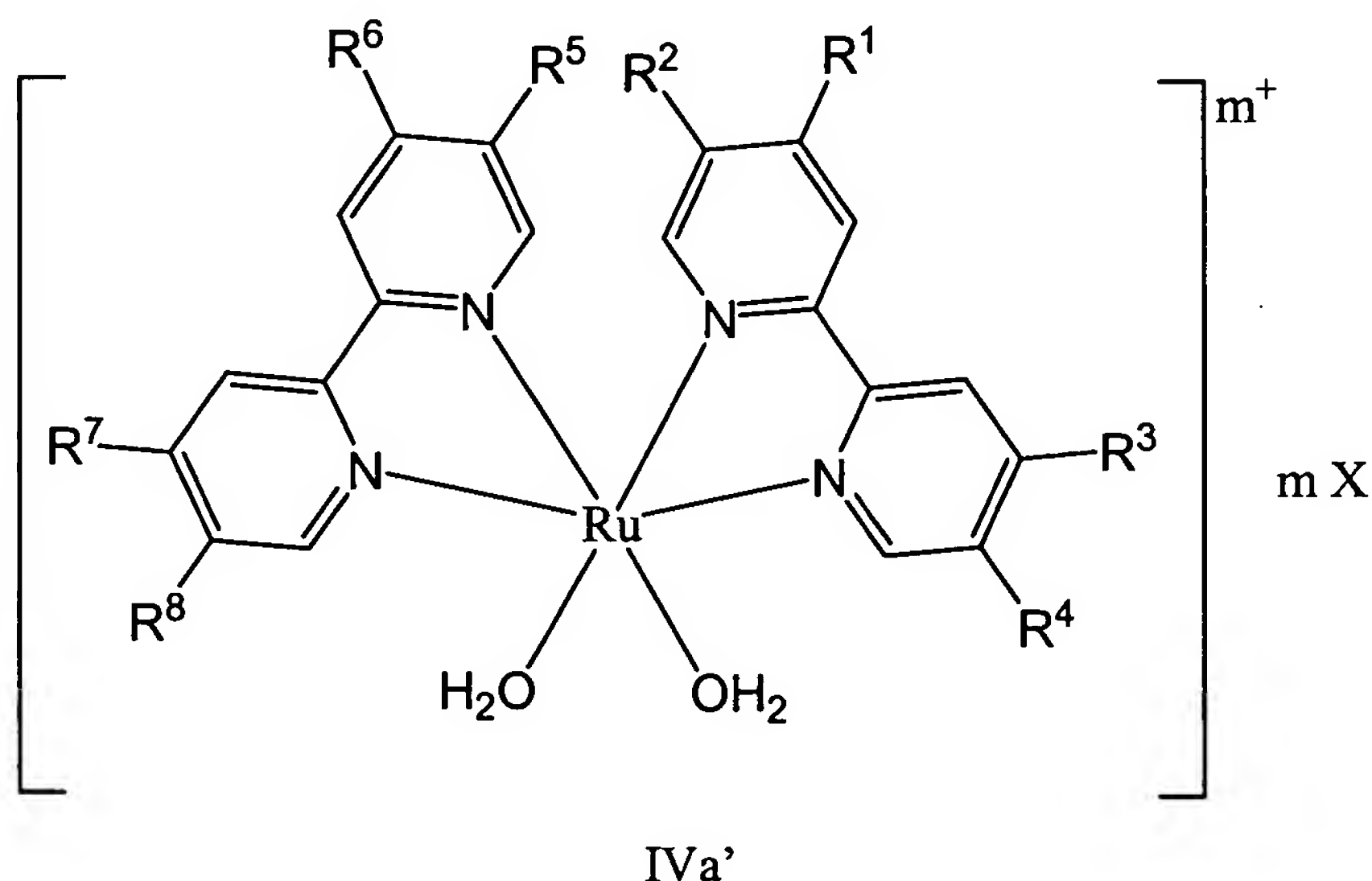
104. (Original) A method for releasing an organic molecule from a Photolabile Compound, comprising:

exposing a compound of claim 97 to light under conditions sufficient to release the organic molecule.

Claims 105-110 have been canceled.

111. (Original) A method for protecting an organic molecule from an effect of an enzyme, comprising:

allowing the organic molecule and a compound of Formula IVa':



wherein m is 2; R<sup>1</sup> to R<sup>8</sup> are independently -H, -C<sub>1</sub>-C<sub>18</sub> alkyl; -NH<sub>2</sub>, -COOH, -(C<sub>1</sub>-C<sub>18</sub> alkyl)-O-(C<sub>1</sub>-C<sub>18</sub> alkyl), or -OC(O)(C<sub>1</sub>-C<sub>18</sub> alkyl); and X is Cl<sup>-</sup>, F<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>, PF<sub>6</sub><sup>-</sup>, CF<sub>3</sub>SO<sub>3</sub><sup>-</sup>, (C<sub>1</sub>-C<sub>18</sub> alkyl)-CO<sub>2</sub><sup>-</sup>, or (C<sub>1</sub>-C<sub>18</sub> alkyl)-SO<sub>3</sub><sup>-</sup>,

to react under conditions sufficient to make a compound of claim 97, wherein the organic molecule has:

- (a) a tetrazolyl group, one of its nitrogen atoms forming a bond with Ru;
- (b) nicotine or caffeine, whose pyridyl nitrogen atom forms a bond with Ru;

(c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with Ru;

(d) an  $\text{-NH}_2$  group whose nitrogen atom forms a bond with Ru; or

(e) a  $\text{-COOH}$  group, one of whose oxygen atoms forms a bond with Ru.

112. (Original) A method for making an organic molecule bioavailable to a subject, comprising:

(a) administering a compound of claim 97 to the subject; and

(b) exposing the compound to light under conditions sufficient to release the organic molecule from the compound, wherein the organic molecule has:

(i) a tetrazolyl group, one of its nitrogen atoms forming a bond with Ru

(ii) nicotine or caffeine, whose pyridyl nitrogen atom forms a bond with Ru;

(iii) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with Ru;

(iv) an  $\text{-NH}_2$  group whose nitrogen atom forms a bond with Ru; or

(v) a  $\text{-COOH}$  group, one of whose oxygen atoms forms a bond with Ru.

113. (Original) The method of claim 112, wherein the light is sunlight, photo-optic light, or laser light.

114. (Original) The method of claim 112, wherein the light is visible light or infrared light.

115. (Original) The method of claim 112, wherein the exposing occurs at the site of a tumor, cancer, or neoplasm.

116. (Original) The method of claim 112, wherein the administering occurs intravenously, topically, intradermally, intramuscularly, transdermally, subcutaneously, intranasally, parenterally, intrathecally, vaginally, rectally, colorectally, orally, intracranially, retroorbitally, intrasternally, or by injection.



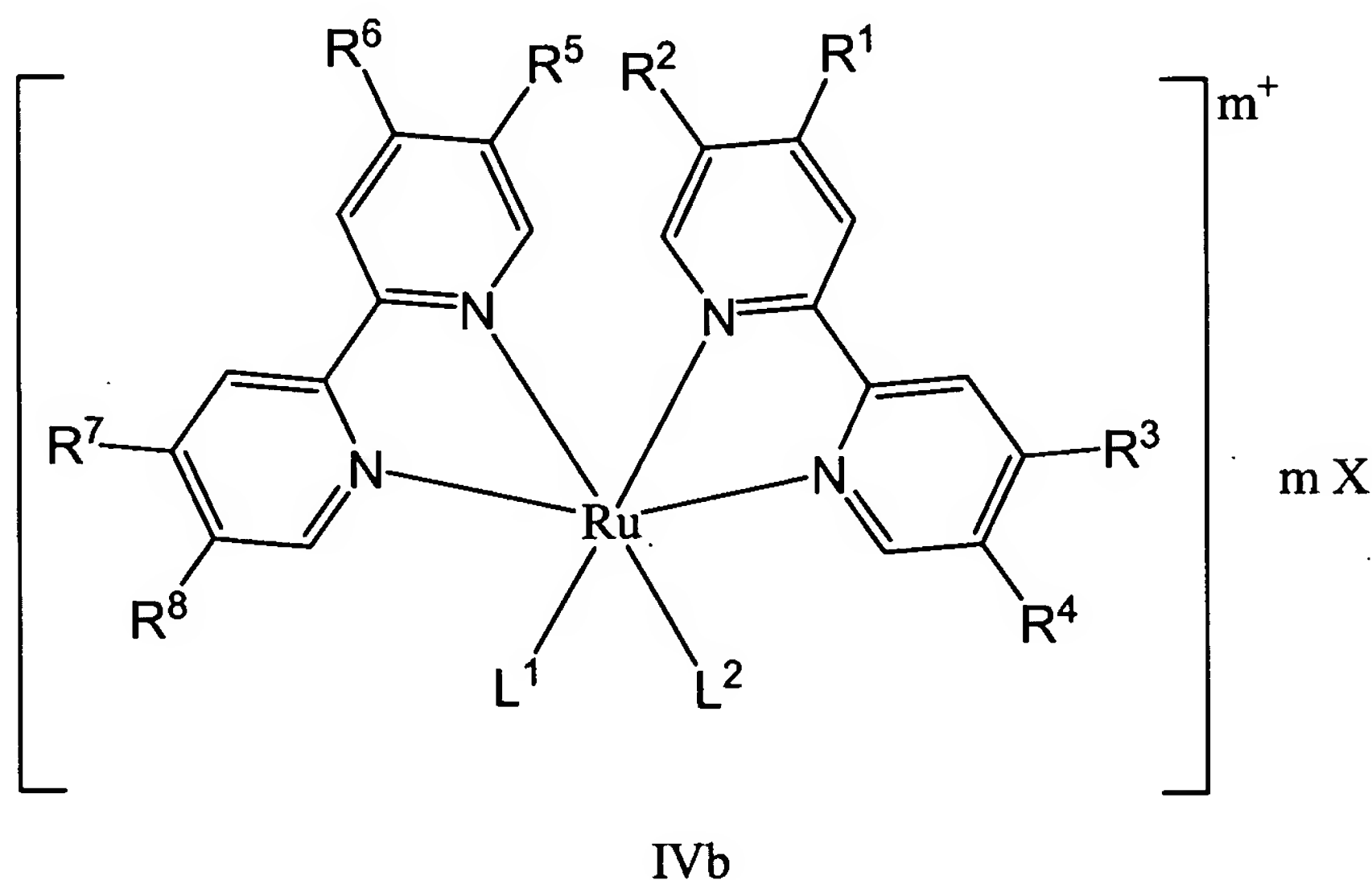
Claim 117 has been canceled.

118. (Original) A composition comprising a compound of claim 97 and a physiologically acceptable carrier, vehicle, diluent, or excipient.

Claims 119-126 have been canceled.

127. (Original) A kit comprising a compound of claim 97 and instructions for use of the compound.

128. (Original) A compound of Formula IVb:



wherein:

$L^1$  is 4-aminopyridine, whose pyridyl nitrogen atom forms a bond with Ru;

$L^2$  is  $(R^2)_3P$ ,  $(R^2O)_3P$ , or  $L^1$ , wherein each  $R^2$  is independently  $-C_1-C_{18}$  alkyl,  $-C_3-C_8$  cycloalkyl, or phenyl, and  $m$  is 2; or  $L^2$  is  $-CN$  and  $m$  is 1;

$R^1$  to  $R^8$  are independently  $-H$ ,  $-C_1-C_{18}$  alkyl,  $-NH_2$ ,  $-COOH$ ,  $-(C_1-C_{18} \text{ alkyl})-O-(C_1-C_{18} \text{ alkyl})$ , or  $-OC(O)(C_1-C_{18} \text{ alkyl})$ ; and

$X$  is  $Cl^-$ ,  $F^-$ ,  $Br^-$ ,  $I^-$ ,  $PF_6^-$ ,  $CF_3SO_3^-$ ,  $(C_1-C_{18} \text{ alkyl})-CO_2^-$ , or  $(C_1-C_{18} \text{ alkyl})-SO_3^-$ .

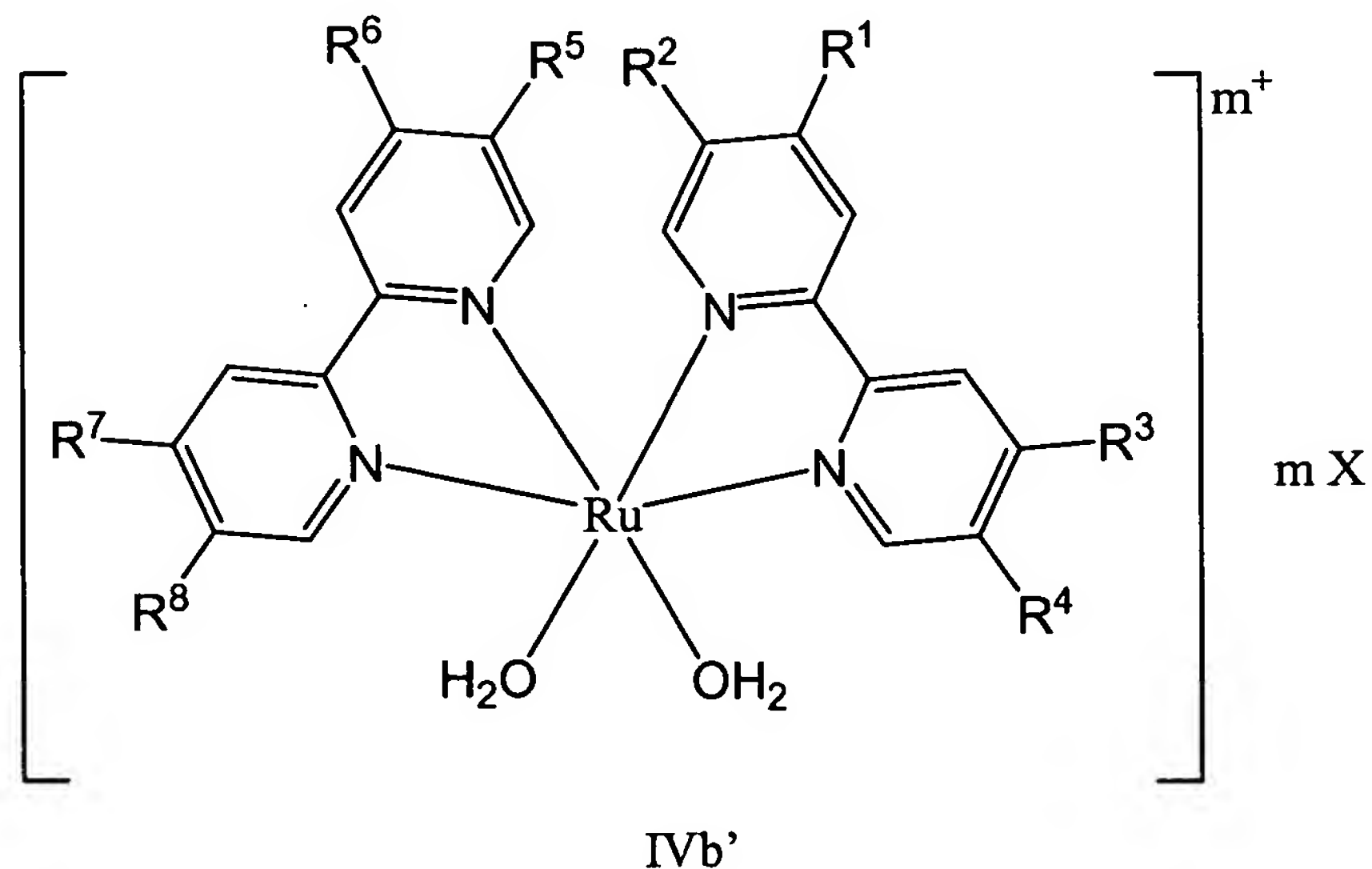
129. (Original) A method for releasing an organic molecule from a Photolabile Compound, comprising:  
exposing a compound of claim 128 to light under conditions sufficient to release the organic molecule.

Claims 130-133 have been canceled.

134. (Original) The method of claim 128, wherein the light comprises visible light or infrared light.

Claim 135 has been canceled.

136. (Original) A method for protecting an organic molecule from an effect of an enzyme, comprising:  
allowing the organic molecule and a compound of Formula IVb':



wherein m is 2; R<sup>1</sup> to R<sup>8</sup> are independently -H, -C<sub>1</sub>-C<sub>18</sub> alkyl; -NH<sub>2</sub>, -COOH, -(C<sub>1</sub>-C<sub>18</sub> alkyl)-O-(C<sub>1</sub>-C<sub>18</sub> alkyl), or -OC(O)(C<sub>1</sub>-C<sub>18</sub> alkyl); and X is Cl<sup>-</sup>, F<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>, PF<sub>6</sub><sup>-</sup>, CF<sub>3</sub>SO<sub>3</sub><sup>-</sup>, (C<sub>1</sub>-C<sub>18</sub> alkyl)-CO<sub>2</sub><sup>-</sup>, or (C<sub>1</sub>-C<sub>18</sub> alkyl)-SO<sub>3</sub><sup>-</sup>,

to react under conditions sufficient to make a compound of claim 129, wherein the organic molecule 4-aminopyridine, whose pyridyl nitrogen atom forms a bond with Ru.

137. (Original) A method for making an organic molecule bioavailable to a subject, comprising:

- (a) administering a compound of claim 128 to the subject; and
- (b) exposing the compound to light under conditions sufficient to release the organic molecule from the compound, wherein the organic molecule is molecule 4-aminopyridine (4-AP), whose pyridyl nitrogen atom forms a bond with Ru.

138. (Original) The method of claim 137, wherein the light is sunlight, photo-optic light, or laser light.

139. (Original) The method of claim 137, wherein the light is visible light or infrared light.

140. (Original) The method of claim 137, wherein the exposing occurs at the site of a tumor, cancer, or neoplasm.

141. (Original) The method of claim 137, wherein the administering occurs intravenously, topically, intradermally, intramuscularly, transdermally, subcutaneously, intranasally, parenterally, intrathecally, vaginally, rectally, colorectally, orally, intracranially, retroorbitally, intrasternally, or by injection.

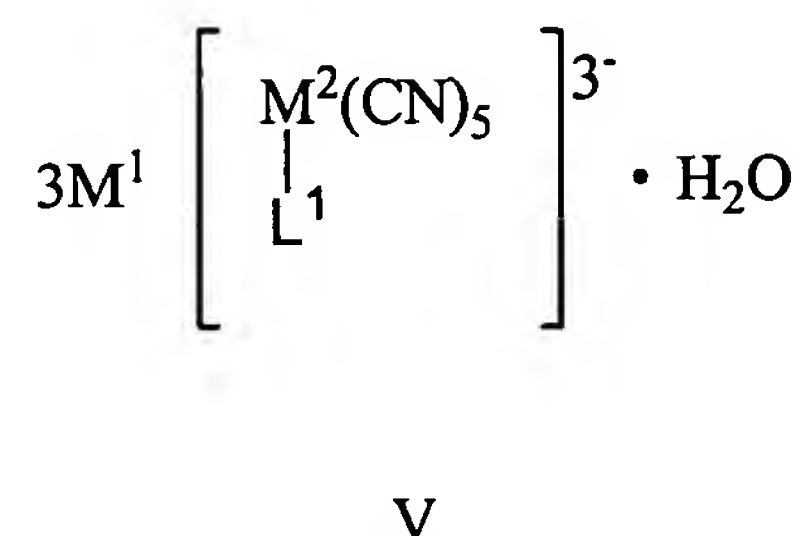
Claim 142 has been canceled.

143. (Original) A composition comprising a compound of claim 128 and a physiologically acceptable carrier, vehicle, diluent, or excipient.

Claims 144-151 have been canceled.

152. (Original) A kit comprising a compound of claim 128 and instructions for use of the compound.

153. (Original) A compound of Formula V:



wherein  $M^1$  is  $Li^+$ ,  $Na^+$ , or  $K^+$ ; and  $M^2$  is Fe, Ru, or Os; and

$L^1$  is independently an organic molecule having:

- (a) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with  $M^2$ ;
  - (b) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with  $M^2$ ;
  - (c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with  $M^2$ ;
  - (d) an  $-NH_2$  group whose nitrogen atom forms a bond with  $M^2$ ; or
  - (e) a  $-COOH$  group, one of whose oxygen atoms forms a bond with  $M^2$ ; and
- $X$  is  $Cl^-$ ,  $F^-$ ,  $Br^-$ ,  $I^-$ ,  $PF_6^-$ ,  $CF_3SO_3^-$ ,  $(C_1-C_{18} \text{ alkyl})-CO_2^-$ , or  $(C_1-C_{18} \text{ alkyl})-SO_3^-$ .

154. (Original) The compound of claim 153, wherein the organic molecule is 4-aminopyridine.

155. (Original) The compound of claim 153, wherein the organic molecule is (RS)-(tetrazol-5-yl) glycine.

156. (Original) The compound of claim 153, wherein the organic molecule is (tetrazol-5-yl) AMPA.

157. (Original) The compound of claim 153, wherein the organic molecule is nicotine or caffeine.

158. (Original) The compound of claim 153, wherein the organic molecule is serotonin (5-hydroxy triptamine), epinephrine, norepinephrine, or dopamine.

159. (Original) The compound of claim 153, wherein the organic molecule is adenosine 5'-diphosphate ADP, adenosine 5'-triphosphate ATP, adenosine 5'-monophosphate AMP, cyclic adenosine 5'-diphosphate ribose, or adenosine 3', 5'-cyclicmonophosphate.

160. (Original) The compound of claim 153, wherein the organic molecule is aminobutyric acid or L-glutamic acid, or methyl-D-aspartic acid.

161. (Original) A method for releasing an organic molecule from a Photolabile Compound, comprising:  
exposing a compound of claim 153 to light under conditions sufficient to release the organic molecule.

162. (Original) The method of claim 161, wherein the light comprises a wavelength of about 300 to about 500 nm.

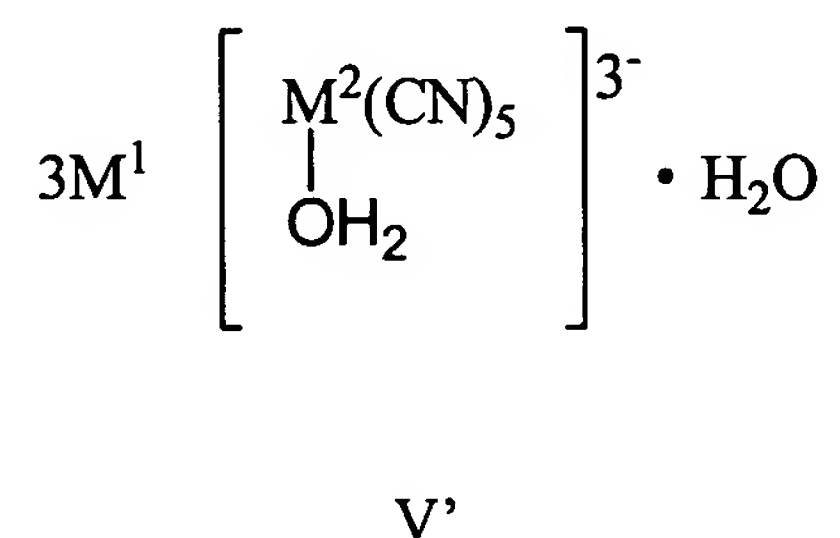
163. (Original) The method of claim 162, wherein the light comprises a wavelength of about 300 to about 360 nm.

164. (Original) The method of claim 162, wherein the light comprises a wavelength of about 450 to about 500 nm.

165. (Original) The method of claim 161, wherein the light comprises visible light or infrared light.

Claim 166 has been canceled.

167. (Original) A method for protecting an organic molecule from an effect of an enzyme, comprising:  
allowing the organic molecule and a compound of Formula V':



wherein  $M^1$  is  $Li^+$ ,  $Na^+$ , or  $K^+$ ; and  $M^2$  is Fe, Ru, or Os,  
to react under conditions sufficient to make a compound of claim 154, wherein the organic molecule has:

- (a) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
- (b) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
- (c) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with M;
- (d) an  $-NH_2$  group whose nitrogen atom forms a bond with M; or
- (e) a  $-COOH$  group, one of whose oxygen atoms forms a bond with M.

168. (Original) A method for making an organic molecule bioavailable to a subject, comprising:

- (a) administering a compound of claim 153 to the subject; and
- (b) exposing the compound to light under conditions sufficient to release the organic molecule from the compound, wherein the organic molecule has:
  - (i) a 5-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
  - (ii) a 6-membered monocyclic aromatic ring, one of the ring's members being a nitrogen atom that forms a bond with M;
  - (iii) an 8-10-membered bicyclic ring, one of the bicyclic rings being aromatic and having a nitrogen atom member that forms a bond with M;
  - (iv) an  $-NH_2$  group whose nitrogen atom forms a bond with M; or
  - (v) a  $-COOH$  group, one of whose oxygen atoms forms a bond with M.

169. (Original) The method of claim 168, wherein the light is sunlight, photo-optic light, or laser light.

170. (Original) The method of claim 168, wherein the light is visible light or infrared light.

171. (Original) The method of claim 168, wherein the exposing occurs at the site of a tumor, cancer, or neoplasm.

172. (Original) The method of claim 168, wherein the administering occurs intravenously, topically, intradermally, intramuscularly, transdermally, subcutaneously, intranasally, parenterally, intrathecally, vaginally, rectally, colorectally, orally, intracranially, retroorbitally, intrasternally, or by injection.

Claim 173 has been canceled.

174. (Original) A composition comprising a compound of claim 153 and a physiologically acceptable carrier, vehicle, diluent, or excipient.

Claims 175-182 have been canceled.

183. (Original) A kit comprising a compound of claim 153 and instructions for use of the compound.

184. (Original) A method for assaying an organic molecule, comprising exposing a Photolabile Compound of any one of claims 1, 33, 65, 97, 128, or 153 to light under conditions sufficient to release the organic molecule from the Photolabile Compound, and (b) determining an effect of the organic molecule on a biological sample.